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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,816	07/09/2003	Graham Roger Jones	YAMAP0880US	1433
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MARK D. SARALINO (GENERAL) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE, NINETEENTH FLOOR CLEVELAND, OH 44115-2191			WONG, ALLEN C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/615,816	JONES ET AL.	
Examiner	Art Unit		
Allen Wong	2621		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on pre-appeal brief request 10/4/07.
2a) This action is FINAL. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-47 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-47 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 09 July 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. ____ .
3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ .
5) Notice of Informal Patent Application
6) Other: ____ .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pre-appeal brief, filed 10/4/07, with respect to claims 1-47 have been fully read and considered and are persuasive. The Office Action of 6/4/07 has been withdrawn.
2. Applicant's arguments with respect to claims 1-47 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 14, 16, 22-33, 38, 40 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodgate (5,917,562) in view of Hart (5,796,500).

Regarding claim 1, Woodgate discloses an autostereoscopic display (see title) comprising:

a pixellated spatial light modulator comprising at least one first region, at least one second region, and a plurality of pixels (col.3, ln.66 to col.4, ln.4 and fig.1-2, element 4);

a backlight (col.4, ln.54-60 and fig.1, elements 1-2 and fig.2, element 9);

an arrangement for substantially preventing transmission of light through said at least one first region of said modulator to an autostereoscopic viewing region of said

display (col.4, ln.5-27, in fig.1, element 5 shows the details of the spatial light modulator 4 where there is an arrangement of plural preventive transmission elements 5a and 5b, and that the “detail of polarizing elements of SLM” clearly show the region of the SLM 4 of the autostereoscopic viewing portion); and

a controller for setting at least some of said pixels of said at least one first region to a first predetermined transmissivity and for setting at least some of said pixels of said at least one second region of said modulator to a second predetermined transmissivity less than said first transmissivity (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4).

Woodgate does not specifically disclose the term “transflective”. However, Hart teaches the use of a transflective LCD (col.18, ln.36-41, Hart discloses the use of transflective LCD). The term “transflective” is a well known term used in the art of display for permitting the viewing of image data on a transflective LCD (liquid crystal

display device). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Woodgate and Hart, as a whole, for producing the display of three-dimensional images for viewing in a high quality manner (Hart col.4, ln.1-7).

Regarding claim 2, Woodgate discloses the arrangement comprises a screen for substantially preventing transmission of light from the backlight through the at least one first region (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34; Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4).

Regarding claim 3, Woodgate discloses the backlight comprises a first portion disposed behind the at least one first region and a second portion disposed behind the at least one second region (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or

preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4), said arrangement being arranged to switch off the first portion independently of the second portion (col.10, ln.44-51, Woodgate discloses that input polarisers 31 and 33 can be inputted by the user for manually selecting the different transmissivities as desired, thus, the arrangement of the polarisers can be independently arranged by the user to switch off the first portion independently of the second portion).

Regarding claims 4 and 29, Woodgate discloses a parallax element between the modulator and the backlight (col.4, ln.54-62, fig.2, element 11 is a parallax element that is disposed between spatial light modulator 4 and backlight 9).

Regarding claims 5 and 30, Woodgate discloses the parallax element comprises a parallax barrier (col.4, ln.54-62, fig.2, element 11 is a parallax barrier).

Regarding claim 6, Woodgate discloses the parallax element between said modulator and said backlight, the screen comprising part of said parallax element (col.4, ln.54-62, fig.2, element 11 is a parallax element that is disposed between spatial light modulator 4 and backlight 9).

Regarding claims 7 and 31, Woodgate discloses the first transmissivity is substantially equal to a maximum transmissivity of the pixels (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34,

Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, the transmissivity can be set to maximum if needed).

Regarding claims 8 and 32, Woodgate discloses the at least one second region comprises a plurality of second regions (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, in fig.1, there can be plural regions shown for the SLM 4, as seen in "detail of polarizing elements of SLM" of element 4 for illustrating one region with a plurality of regions, and that there can be multiple subdivisions that can be obtained from element 4).

Regarding claims 9 and 33, Woodgate discloses the controller is arranged to set the pixels of the different second regions to respective different second transmissivities (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region

with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4).

Regarding claims 14 and 38, Woodgate discloses having a two dimensional operational mode (col.16, ln.14-17 and col.18, ln.60-63).

Regarding claims 16 and 40, Woodgate discloses the controller is arranged to set the pixels of the at least one second region to any one of a plurality of different second transmissivities (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4).

Regarding claims 22 and 46, Woodgate discloses the at least some pixels of the first and second regions are of a same color (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of

the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig. 1, there can be plural regions shown for the SLM 4; and in col.7, ln.28-32, Woodgate discloses that it is well known that there are black and white colors, so there will be plural regions that have at least some of the pixels having the same color).

Regarding claims 23 and 47, Woodgate discloses the modulator comprises a liquid crystal device (col.7, ln.42-44).

Regarding claim 24, Woodgate discloses an autostereoscopic display (see title) comprising:

a pixellated spatial light modulator comprising at least one first region, at least one second region, and a plurality of pixels (col.3, ln.66 to col.4, ln.4 and fig.1-2, element 4);

a backlight (col.4, ln.54-60 and fig.1, elements 1-2 and fig.2, element 9); and a controller for alternately selecting first and second phases of operation (col.4, ln. 23-37 and fig.1, element 7; col.4, ln.54-62), wherein, during said first phase, said controller sets at least some of said pixels of said at least one first region of said modulator to a first transmissivity and sets said backlight to supply light of a first intensity through at least some of said at least some pixels of said at least one first region (col.4, ln.54-62), and wherein, during said second phase, said controller sets at

least some of said pixels of said at least one second region of said modulator to a second transmissivity less than said first transmissivity and sets said backlight to supply light of a second intensity greater than said first intensity through at least some of said at least some pixels of said at least one second region (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4; col.6, ln.57-67, Woodgate discloses that there can be two light sources or light intensities used to switch from one light intensity to another light intensity).

Woodgate does not specifically disclose the term "transflective". However, Hart teaches the use of a transflective LCD (col.18, ln.36-41, Hart discloses the use of transflective LCD). The term "transflective" is a well known term used in the art of display for permitting the viewing of image data on a transflective LCD (liquid crystal display device). Therefore, it would have been obvious to one of ordinary skill in the art

to combine the teachings of Woodgate and Hart, as a whole, for producing the display of three-dimensional images for viewing in a high quality manner (Hart col.4, ln.1-7).

Regarding claim 25, Woodgate discloses the at least one first region at least partially overlaps the at least one second region (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4).

Regarding claim 26, Woodgate discloses each of the at least one first region and the at least one second region comprises substantially a whole display area of the modulator (col.3, ln.66 to col.4, ln.4, element 7 is a control circuit that can be used to control the SLM 4, in col.4, ln.5-34, Woodgate discloses that element 7 can be used to adjust each of the polarization means elements 5, in which each of the polarization means 5 are aligned with a respective picture element of the modulator SLM 4, thereby affecting the pixels of at least one of the first region, by polarizing or preventing certain light frequencies from passing through and letting other light frequencies to pass

through, and that 5a can have differing transmissivity values from 5b, and that each of the elements 5 can all have different transmissivity values, thus, there can be one region with a lower transmissivity value than another region, or that in fig.1, there can be plural regions shown for the SLM 4).

Regarding claim 27, Woodgate discloses the controller is arranged to switch automatically between said first and second phases (col.4, ln. 23-37 and fig.1, element 7; col.4, ln.54-62).

Regarding claim 28, Woodgate discloses manually operable control for switching between said first and second phases (col.10, ln.44-51, Woodgate discloses that input polarisers 31 and 33 can be inputted by the user for manually selecting the different transmissivities as desired).

5. Claims 10-13, 17-20, 34-37 and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodgate (5,917,562) and Hart (5,796,500) in view of Taniguchi (6,094,216).

Regarding claims 10 and 34, Woodgate and Hart do not specifically disclose in which said pixels of each said different second transmissivity form a pattern providing a visual representation of a crosstalk value corresponding to said different second transmissivity. However, Taniguchi discloses the parallax barrier pattern for forming information of the transmissivity or the visual representation of the crosstalk value (col.23, ln.26-33, Taniguchi discloses the first parallax barrier pattern for providing a representation of the crosstalk value of the transmissivity, and in col.23, ln.34-42,

Taniguchi discloses the second parallax barrier pattern for providing a representation of the crosstalk value of the transmissivity). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Woodgate, Hart and Taniguchi, as a whole, for minimizing crosstalk and producing high quality, high-resolution images for viewing (Taniguchi col.3, ln.8-16).

Regarding claims 11 and 35, Woodgate discloses comprising a manually operable control for selecting any one of the different second transmissivities (col.10, ln.44-51, Woodgate discloses that input polarisers 31 and 33 can be inputted by the user for manually selecting the different transmissivities as desired).

Regarding claims 12 and 36, Woodgate discloses the controller is arranged to provide a crosstalk value corresponding to the selected second transmissivity (col.10, ln.44-51, Woodgate discloses that input polarisers 31 and 33 can be inputted by the user for manually selecting the different transmissivities as desired to reduce parallax issues and crosstalk in a functional manner; and col.7, ln.66 to col.8, ln.7, Woodgate discloses calculation of crosstalk values).

Regarding claims 13 and 37, Woodgate and Hart do not specifically disclose the controller is arranged to perform a crosstalk correction of autostereoscopic image data for the modulator in accordance with the crosstalk value. However, Taniguchi discloses the crosstalk correction of the stereoscopic image data (col.23, ln.64 to col.24, ln.6, Taniguchi discloses the display of high resolution image data with almost no crosstalk, thus, crosstalk has been reduced dramatically for viewing stereoscopic image data). Therefore, it would have been obvious to one of ordinary skill in the art to

combine the teachings of Woodgate, Hart and Taniguchi, as a whole, for minimizing crosstalk and producing high quality, high-resolution images for viewing (Taniguchi col.3, ln.8-16).

Regarding claims 17 and 41, Woodgate and Hart do not specifically disclose in which said pixels of each said different second transmissivity form a pattern providing a visual representation of a crosstalk value corresponding to said different second transmissivity. However, Taniguchi discloses the parallax barrier pattern for forming information of the transmissivity or the visual representation of the crosstalk value (col.23, ln.26-33, Taniguchi discloses the first parallax barrier pattern for providing a representation of the crosstalk value of the transmissivity, and in col.23, ln.34-42, Taniguchi discloses the second parallax barrier pattern for providing a representation of the crosstalk value of the transmissivity). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Woodgate, Hart and Taniguchi, as a whole, for minimizing crosstalk and producing high quality, high-resolution images for viewing (Taniguchi col.3, ln.8-16).

Regarding claims 18 and 42, Woodgate discloses comprising a manually operable control for selecting any one of the different second transmissivities (col.10, ln.44-51, Woodgate discloses that input polarisers 31 and 33 can be inputted by the user for manually selecting the different transmissivities as desired).

Regarding claims 19 and 43, Woodgate discloses the controller is arranged to provide a crosstalk value corresponding to the selected second transmissivity (col.10, ln.44-51, Woodgate discloses that input polarisers 31 and 33 can be inputted by the

user for manually selecting the different transmissivities as desired to reduce parallax issues and crosstalk in a functional manner; and col.7, ln.66 to col.8, ln.7, Woodgate discloses calculation of crosstalk values).

Regarding claims 20 and 44, Woodgate and Hart do not specifically disclose the controller is arranged to perform a crosstalk correction of autostereoscopic image data for the modulator in accordance with the crosstalk value. However, Taniguchi discloses the crosstalk correction of the stereoscopic image data (col.23, ln.64 to col.24, ln.6, Taniguchi discloses the display of high resolution image data with almost no crosstalk, thus, crosstalk has been reduced dramatically for viewing stereoscopic image data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Woodgate, Hart and Taniguchi, as a whole, for minimizing crosstalk and producing high quality, high-resolution images for viewing (Taniguchi col.3, ln.8-16).

Claim 15, 21, 39 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodgate (5,917,562), Hart (5,796,500) and Taniguchi (6,094,216) in view of Battersby (6,069,650).

Regarding claims 15 and 39, Woodgate discloses a two dimensional operating mode (col.16, ln.14-17 and col.18, ln.60-63), and determine crosstalk value (col.7, ln.66 to col.8, ln.7). Woodgate, Hart and Taniguchi do not specifically disclose said controller is arranged to switch to said two dimensional mode when said crosstalk value exceeds a predetermined threshold. However, Battersby discloses the switching

to the two dimensional mode (col.2, ln.31-35 and col.5, ln.6-1, Battersby discloses the display of high resolution 2-D images). Therefore, it would have been obvious to one of skill in the art to combine the teachings of Woodgate, Hart, Taniguchi and Battersby, as a whole, for providing an improved autostereoscopic image display of high quality, high resolution image data (Battersby col.1, ln.61-63).

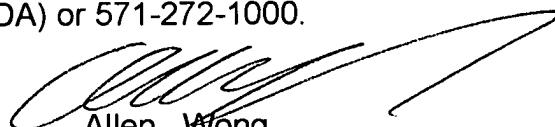
Regarding claims 21 and 45, Woodgate discloses a two dimensional operating mode (col.16, ln.14-17 and col.18, ln.60-63), and determine crosstalk value (col.7, ln.66 to col.8, ln.7). Woodgate, Hart and Taniguchi do not specifically disclose said controller is arranged to switch to said two dimensional mode when said crosstalk value exceeds a predetermined threshold. However, Battersby discloses the switching to the two dimensional mode (col.2, ln.31-35 and col.5, ln.6-1, Battersby discloses the display of high resolution 2-D images). Therefore, it would have been obvious to one of skill in the art to combine the teachings of Woodgate, Hart, Taniguchi and Battersby, as a whole, for providing an improved autostereoscopic image display of high quality, high resolution image data (Battersby col.1, ln.61-63).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Allen Wong
Primary Examiner
Art Unit 2621

AW
1/22/08